

# **Historic, Archive Document**

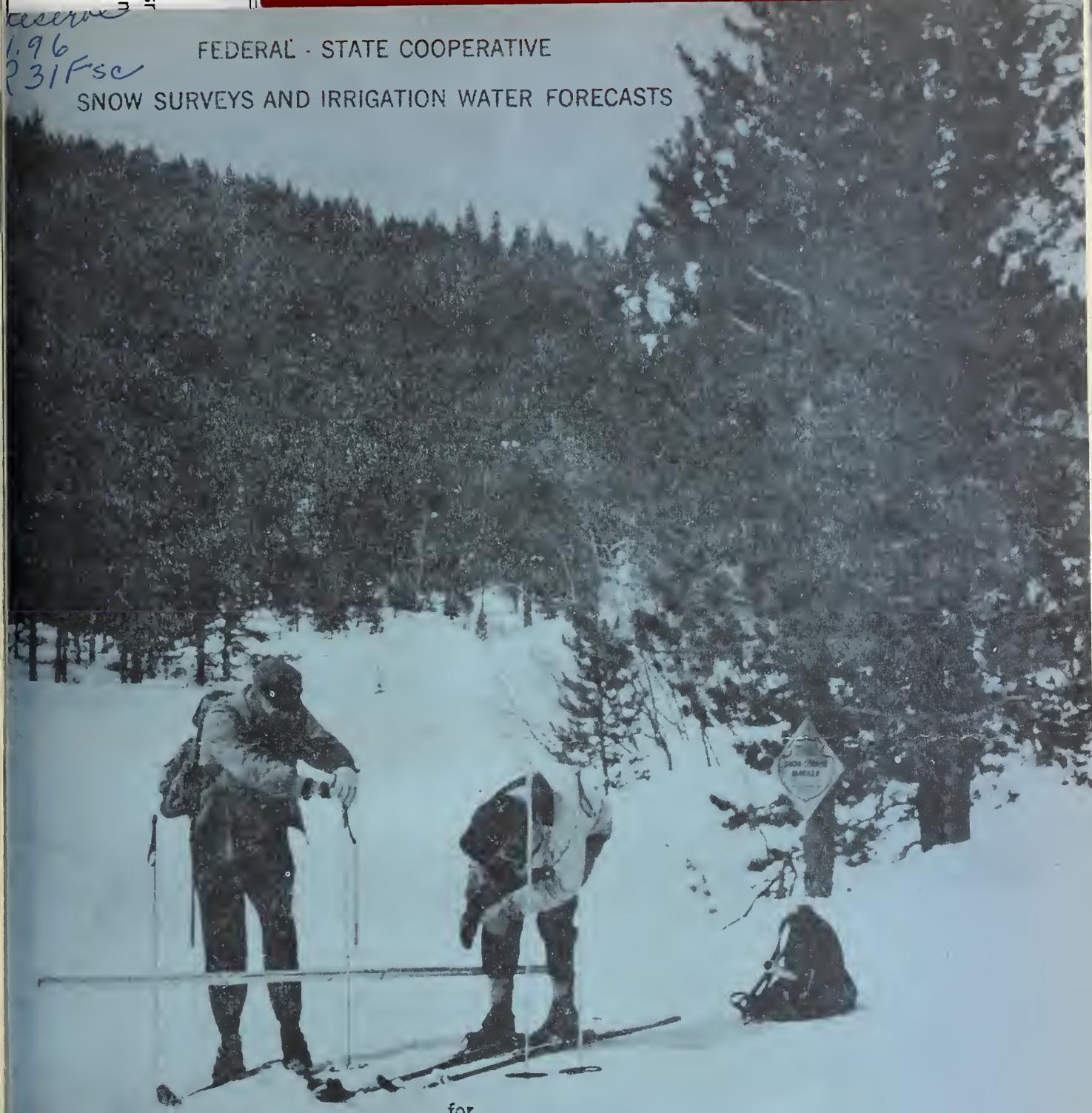
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FEDERAL - STATE COOPERATIVE

SNOW SURVEYS AND IRRIGATION WATER FORECASTS



for

## Colorado River Drainage Basin

By

Division of Irrigation, Soil Conservation Service  
United States Department of Agriculture  
and  
Colorado Agricultural Experiment Station

Data included in this report were obtained by the agencies named above in cooperation with the U. S. Forest Service, National Park Service, State Engineer of Colorado, Wyoming and New Mexico and other Federal, State and local organizations.

As of

FEB. 1, 1953

UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY  
AND WATER SUPPLY FORECAST REPORTS:

Forecasts by U. S. Weather Bureau of total annual streamflow October-September, inclusive, at more than 300 gaging stations are issued monthly January through May in the publication **WATER SUPPLY FORECASTS FOR THE WESTERN UNITED STATES**.

Weather Bureau forecasts of runoff presented in this bulletin are computed from procedures based on mathematical analysis of the relation between precipitation and runoff.

The Weather Bureau bulletins may be secured by writing to:

Hydrologist in Charge  
River Forecast Center  
U. S. Weather Bureau  
712 Federal Office Building  
Kansas City 6, Missouri

FEDERAL-STATE COOPERATIVE  
SNOW SURVEYS AND IRRIGATION  
WATER SUPPLY FORECASTS

FOR  
COLORADO RIVER BASIN  
February 1, 1953

Report Prepared  
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Colorado Experiment Station  
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General Series Paper No. 533  
Colorado Agricultural Experiment Station

1. *Chlorophytum comosum* (L.) Willd. (Liliaceae) (Fig. 1)

WATER SUPPLY OUTLOOK  
COLORADO RIVER DRAINAGE  
FEBRUARY 1, 1953

Snow accumulation on the headwaters of the Colorado River in Colorado, Wyoming and New Mexico is slightly less than normal to February 1. The average is about 85 percent of normal for the upper basin. Snow melt season runoff is expected to be somewhat less than indicated by present snow measurements because of deficiency in precipitation during the late summer and fall months. Mountain soils under the snow are extremely dry. Soil moisture conditions in valley areas are reported as fair to good.

Snow cover on principal watersheds of the Arizona tributaries is much below average and a year ago. Storage on the Salt and Verde drainage is much improved over the past several years, the highest since 1942. January temperatures have been at record highs and precipitation is below normal. San Carlos Reservoir on the Gila River is near empty.

COLORADO RIVER AND TRIBUTARIES  
IN COLORADO

Colorado River (Above Grand Junction): The snow cover on the Upper Colorado River including the Roaring Fork is 87 percent of normal and about one half of February 1, 1952. Similar snow conditions exist on other upper Colorado River tributaries including the Grand Mesa. At medium elevations the snow cover is somewhat less than above 9000 feet and there is practically no snow in the foothills. The lack of snow at lower elevations is partially due to above seasonal temperatures which has caused mid-winter melting. Surface soil moisture is reported as good but the soil generally is on the dry side. Stream flow is about average. Storage in Green Mountain reservoir is now 108,000 acre-feet as compared to 99,000 a year ago on this date.

Gunnison River: Snow accumulation to date on the watershed of the Gunnison River is similar to the Upper Colorado, at 80 percent of normal. Summer stream flow will probably not exceed that indicated by present snow measurements. Even if the rate of snow accumulation is normal or above for the remainder of the season runoff will be materially reduced by dry mountain soils. Soil moisture conditions are reported as fair to good in the Gunnison and Montrose districts, probably due to snow-melt at valley elevations. Stream flow is slightly above normal. Storage in Taylor Park reservoir is now 63,900 acre-feet as compared to 53,100 on February 1, 1952.

Yampa and White Rivers: Snow on the headwaters of the Green River tributaries in Colorado is about 90 percent of normal on February 1. Summer runoff will be adversely affected by the lack of precipitation during the fall months. Soil moisture conditions in northwestern Colorado are reported as fair. Stream flow is about average.

（三）在於社會的問題上，我們應當有怎樣的態度？

San Juan and Animas Rivers: Snow cover on the San Juan Mountains is about 90 percent of normal for February 1 at high elevations and somewhat less at lower and valley elevations. Mountain soil moisture is slightly better than in other areas of Colorado and much better than a year ago, but probably still more deficient in moisture than usual. Precipitation during January was about average. Soil moisture conditions at valley elevations are described as fair to good. Storage in Vallecito reservoir is now 99,900 acre-feet as compared to 24,800 on February 1, 1952.

Dolores River: Snow cover on the Dolores River drainage is similar to the San Juan and Animas at 90 percent of normal. Due to warm temperatures in January there has been some snow melting at relatively high elevations. Stream flow is slightly above average. Soil moisture conditions in the Cortez irrigated district are described as fair.

#### COLORADO RIVER TRIBUTARIES IN ARIZONA

Salt River: There is about 4 inches of water available in less than 2 feet of snow in the Mt. Baldy area of the White Mountains. Soil moisture conditions are still good in this high area, but are beginning to dry. The snow is gone for the most part, below 8,000 feet, and these soils are drying. Runoff forecast for the flow of the Salt River above Roosevelt for the period February through May is 275,000 acre-feet, about 75 percent of normal.

Verde River: There is little water available in the form of snow even on the higher elevations of the Verde River drainage. There is only about 1.5 inches of water in 6 inches of snow. Most of this will be lost to sublimation unless a warm rain soon brings it off. There is practically no snow below 7,000 feet. The soil moisture condition is still pretty good, but it is beginning to dry. Runoff forecast for the Verde River above Horseshoe for the period February through May is 75,000 acre-feet, about 25 percent of normal.

Gila River: Snow conditions on the Gila River watershed are very poor. There is a little snow in the Beaver Head-Coronado Trail area, but most of the rest of the drainage is bare. The average is about 0.5 inches of water in 2.3 inches of snow. There is still good soil moisture in the higher elevations, but it is drying. Soil moisture in the lower elevations is poor to fair. Runoff forecast for the Gila River above Safford for the period March through May is 20,000 acre-feet.

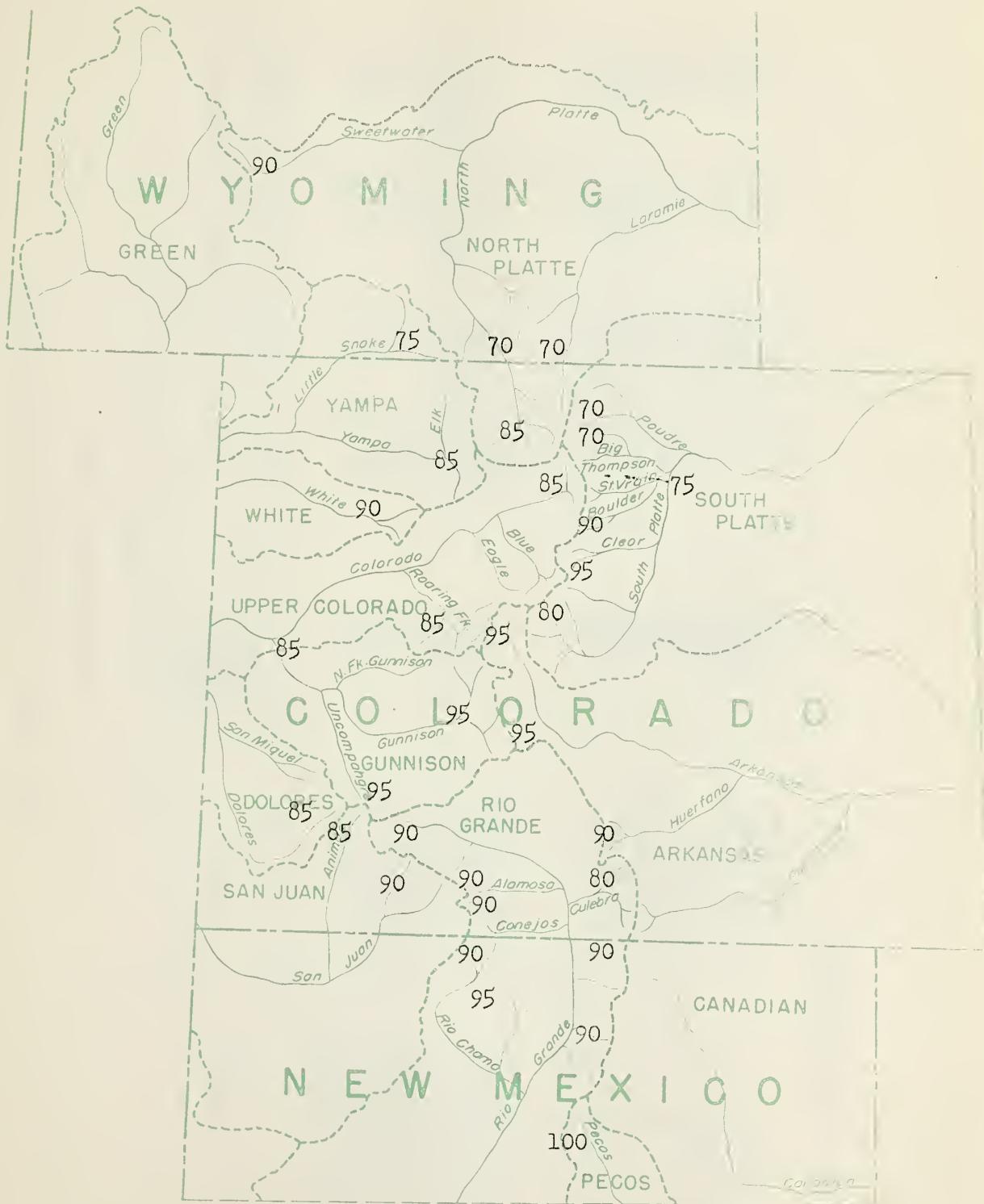
Williams River Drainage: There is no snow on this drainage, although there is still some soil moisture.

Reservoir storage in the Salt-Verde project at the present time is the best it has been in 11 years. The net stored water is over 1,250,000 acre-feet. A year ago this date it was 843,000 acre-feet. Total capacity is 2,077,000 acre-feet.

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second and third are to be sent to the post office on the 15th and 16th inst. The  
fourth and fifth are to be sent to the post office on the 20th and 21st inst. The  
sixth and seventh are to be sent to the post office on the 25th and 26th inst. The  
eighth and ninth are to be sent to the post office on the 30th and 31st inst. The  
tenth and eleventh are to be sent to the post office on the 5th and 6th of Novem-  
ber. The twelfth and thirteenth are to be sent to the post office on the 10th and  
11th of November. The fourteenth and fifteenth are to be sent to the post office  
on the 15th and 16th of November. The sixteenth and seventeenth are to be sent  
to the post office on the 20th and 21st of November. The eighteenth and  
nineteenth are to be sent to the post office on the 25th and 26th of November.

在於此，故其後人之學，亦復以爲子思之學，而不知子思之學，實爲孟子之學也。

WATER CONTENT OF SNOW ON THE WATERSHEDS OF  
PLATTE, ARKANSAS, UPPER COLORADO AND RIO GRANDE BASINS  
BASED ON SNOW SURVEYS MADE APPROXIMATELY FIRST DAY OF MONTH  
In Percent of Normal  
February 1, 1953





SNOW SURVEYS AND IRRIGATION WATER FORECASTS

COLORADO RIVER BASIN

STATUS OF RESERVOIR STORAGE, FEBRUARY 1, 1953

BASIN AND STREAM	RESERVOIR	USABLE CAPACITY (Thous. A. Ft.)	THOUSANDS ACRES FEET IN STORAGE About February 1				10-year Ave.* 1943 - 1952
			1953	1952	1951	1950	
<b>COLORADO DRAINAGE</b>							
Taylor River	Taylor Park	106.2	63.9	53.1	47.3	70.2	67.8
Los Pinos River	Vallecito	126.3	53.9	24.8	23.9	49.4	40.6
Groundhog Creek	Groundhog	21.7	11.0	3.5	3.0	7.5	8.0
Blue River	Green Mountain	146.9	108.1	99.4	92.3	123.6	72.1
Colorado River	Lake Mead	27935.0	19137.0	17375.0	17654.0	18961.0	19147.7
Colorado River	Lake Havasu	688.0	579.8	577.8	699.7	595.4	592.3
Colorado River	Lake Mohave		1625.0				
<b>SALT AND GILA DRAINAGE</b>							
Salt River	Roosevelt	1420.0	1026.4	480.2	3.0	340.6	412.5
"	Horse Mesa	245.0	237.6	173.8	172.0	203.4	195.8
"	Mormon Flat	58.0	57.2	46.5	58.0	25.8	26.1
"	Stewart Mt.	70.0	39.8	39.5	70.0	22.0	19.2
Verde River	Bartlett	200.0	22.6	155.5	3.0	34.7	36.7
Aqua Fria River	Carl Pleasant	173.0		145.0	0.0	5.7	18.3
Gila River	San Carlos	1200.0		146.1	0.0	92.8	124.1
	Horseshoe	143.0	14.1	62.9	5.7	4.0	16.2

\*Some for shorter periods

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1970-1971  
1971-1972  
1972-1973  
1973-1974  
1974-1975

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1920-21  
1921-22  
1922-23  
1923-24

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1. *What is the relationship between the two main characters?*

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THE BOSTONIAN SOCIETY

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## SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for

COLORADO RIVER BASIN  
February 1, 1953

## SUMMARY OF FEBRUARY 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth 1953 Inches	Snow Water Content in Inches				No. of Courses in Average	Snow Density 1953 Percent	1953 Water Content in Percent of	
		1953	1952	1951	16 yr. * Average			1952	16 yr. Avg. *
<b>COLORADO RIVER</b>									
Colorado River**	31.0	7.0	14.1	10.0	8.0	19	23	50	88
Roaring Fork	40.1	9.3	17.4	13.4	10.8	2	23	53	86
Plateau Creek	39.6	11.5	17.4	6.2	12.5	2	29	66	92
Yampa River	41.1	10.9	21.0	14.0	12.5	5	27	52	87
White River	35.9	8.8	14.0	10.5	10.0	2	25	63	88
Gunnison River	27.9	6.6	15.0	8.3	7.8	7	24	44	80
Dolores River	26.8	6.8	13.4	6.7	7.6	3	25	51	90
San Juan River	32.3	9.5	24.9	7.6	10.4	5	29	38	91
Animas River	25.2	5.9	13.7	5.0	6.5	3	23	43	91
Gila River	3.9	0.9	2.4	1.4	2.4	7	23	37	37
Salt River	8.0	2.1	6.1	2.3	4.2	10	26	34	50
Verde River	5.3	1.7	4.9	1.3	3.5	8	32	35	49
Little Colo. River	4.6	1.5	4.9	2.1	4.1	9	33	31	37
Williams River	0.0	0.0	0.0	0.1	1.3	3	—	—	—
Lower Colo. River	8.3	2.3	8.7	1.6	4.7	4	28	26	49
**Above Glenwood Springs									

\*Some for shorter periods.

## PRECIPITATION DATA

WATERSHED	STATE	Precipitation* October 1 to January 31	Departure from Normal Inches	Precipitation January Inches	Departure from Normal Inches	
					Colorado	Wyoming
Colorado	Colorado	3.78	-1.99	1.52	-0.02	
Green	Wyoming	1.37	-1.92	0.50	-0.21	
San Juan	New Mexico	2.81	-0.54	0.42	-0.36	
Colorado	Arizona					
Gila	Arizona					

\*Ave. selected high altitude stations



COLORADO RIVER DRAINAGE SNOW SURVEYS  
 February 1, 1953

Drainage Basin and Snow Course	No. and State	Elev.	Date of Survey	Snow Depth	Snow Cover Measurements			Past Record	
					WATER CONTENT			Yrs. Rec.	Ave. Water Content
					1953	1952	1951		
C O L O R A D O R I V E R									
COLORADO RIVER (above Glenwood Springs)					In	In	In		In
Cameron Pass*	1 Colo.	10300	2/1	35.0	8.5	18.5	14.0	14	12.5
Park View*	7 "	9200	2/2	23.1	5.3	11.5	5.7	15	5.9
Phantom Valley	12 "	9300	1/31	30.1	6.7	12.0	9.5	17	6.1
Hoosier Pass	14 "	11400	1/30	31.9	6.9	12.1	11.4	14	6.6
Berthoud Pass	16 "	9700	1/29	36.1	8.3	15.4	10.9	17	9.2
Tennessee Pass	19 "	10200	1/30	27.8	5.4	11.9	8.6	17	5.3
M.Fork Camp Gr.	37 "	9000	2/2	27.0	5.6	11.6	7.5	16	6.1
Fiddler Gulch	44 "	11000	2/3	35.9	9.5	19.0	14.5	16	9.4
Willow Creek P.	62 "	9500	2/2	28.6	6.1	16.7	6.8	13	7.6
N.Inlet Grand L.	64 "	9000	2/1	30.1	6.2	12.4	6.7	14	5.8
Lake Irene	65 "	10600	2/1	42.0	10.5	20.0	17.8	14	12.7
Arrow	69 "	9900	1/29	26.3	5.1	11.9	7.4	14	5.8
Fremont Pass #2	79 "	11400	1/28	37.0	9.5	16.9	15.2	17	9.3
Lynx Pass	91 "	9100	1/29	28.9	6.1	9.0	5.7	16	7.5
Shrine Pass	96 "	10500	1/28	36.9	9.8	16.7	14.9	11	10.5
Grizzly Peak	97 "	11250	1/24	39.0	9.9	20.0	15.7	11	11.3
Glen-Mar Ranch	102 "	8850	2/2	23.9	4.6	11.6	7.5	5	7.1
Granby	112 "	8700	1/25	20.1	4.5	9.6	3.5	4	5.7
Grand Lake	127 "	8600	1/30	30.0	4.9	10.9	6.8	4	7.6
Berthoud Summit	138 "	11300	1/25	43.1	8.6	18.7	12.8	2	
Frazer View	139 "	10600	1/25	31.2	7.4	15.2	8.2	2	
Gore Pass	143 "	8900				10.3	5.8	2	
Frisco	146 "	9300	1/28	21.9	4.3	9.2	8.6	2	
Snake River	147 "	9700	1/24	26.9	6.7	10.1	9.2	2	
Summit Ranch	158 "	10000	1/24	21.8	3.2	12.6	5.8		
Average for drainage				31.0	7.0	13.9	10.0		8.0
R O A R I N G F O R K									
Ind.Pass Tunnel	33 Colo.	10700	1/30	40.8	9.5	16.0	13.9	17	10.2
Ivanhoe	100 "	10400	1/30	39.5	9.1	18.8	12.8	17	11.4
Average for drainage				40.1	9.3	17.4	13.4		10.8
Y A M P A R I V E R									
Dry Lake	6 Colo.	8200	2/2	45.8	12.3	21.2	14.4	12	11.9
Columbine Lodge*	8 "	9300	2/2	53.5	15.3	23.2	20.9	17	14.3
Elk River	9 "	8700	1/26	30.0	7.2	-	9.5	14	9.6
Lynx Pass*	91 "	9100	1/29	28.9	6.1	9.0	5.7	16	7.5
Routt Line	140 "	9700	2/2	70.5	21.9	32.8	28.8	2	-
Rabbit Ears	141 "	9550	2/2	58.5	16.3	25.7	21.0	2	-
Yampa View	142 "	8500	2/2	37.9	10.0	15.9	6.8	2	-
Old Battle*	9 Wyo.	9800	1/29	47.1	13.7	30.5	19.4	16	19.1
Average for drainage				41.1	10.9	21.0	14.0		12.5

\*On Adjacent Drainage



COLORADO RIVER SNOW SURVEYS  
 February 1, 1953

Drainage Basin and Snow Course	No. and State	Elev.	Date of Survey	Snow Course Measurements					Past Rec.	Av. Water Content		
				Snow Depth	Water Content							
					1953	1952	1951					
COLORADO RIVER												
WHITE RIVER												
Burro Mountain	35 Colo.	9000	1/28	34.0	7.9	17.2	8.3	17	10.6			
Rio Blanco	36 "	8500	1/30	37.8	9.6	10.8	12.7	13	9.3			
Average for drainage				35.9	8.8	14.0	10.5		10.0			
PLATEAU CREEK												
Mesa Lakes	56 Colo.	10000	2/1	34.1	9.8	17.4	6.2	16	9.7			
Trickle Divide	85 "	10000	1/28	45.0	13.1	--	--	9	15.4			
Average for drainage				39.6	11.5	17.4	6.2		12.5			
GUNNISON RIVER												
Crested Butte	18 Colo.	9000	2/2	32.1	7.2	19.3	13.8	17	8.5			
Park Cone	46 "	9700	2/2	29.5	6.2	16.5	7.9	17	5.8			
Alexander Lake	53 "	10000	1/28	36.0	10.1	22.5	9.1	16	13.3			
Snowshoe Mesa	55 "	7500	1/29	17.2	3.6	10.8	7.5	15	6.5			
Ironton Park	58 "	9800	1/30	30.9	7.5	12.1	6.0	15	7.2			
Park Reservoir	87 "	9500		40.0	11.6	--	--	9	14.3			
Trickle Divide	85 "	10000		45.0	13.1	--	--	9	15.4			
Porphyry Creek	89 "	10800	1/29	35.0	9.2	17.9	11.1	13	9.6			
Cochetopa Pass	126 "	10000	2/2	14.4	2.3	5.6	2.8	4	3.7			
Average for drainage				27.9	6.6	15.0	8.3		7.8			
SAN JUAN RIVER												
Wolf Creek Pass*	26 Colo.	10000	1/30	45.6	14.4	42.0	13.1	13	14.5			
Upper San Juan	29 "	10000	1/31	53.2	17.8	46.0	16.3	13	20.0			
Granite Peaks	93 "	7950	1/31	17.5	3.8	10.6	2.9	11	6.1			
Wolf Creek Summit	155 "	11000	1/30	41.6	13.9	40.4	12.1	2	--			
Chama Divide*	17 N.Mex.	7750	2/1	17.7	4.2	7.7	2.4	13	4.4			
Chamita*	18	8500	2/1	27.7	7.4	18.3	3.5	11	7.0			
Average for drainage				32.3	9.5	24.9	7.6		10.4			
ANIMAS RIVER												
Silverton Sub.S.	30 Colo.	9400	1/30	19.5	4.7	10.3	4.3	14	4.1			
Cascade	31 "	8850	1/30	25.2	5.4	18.6	4.8	14	8.2			
Ironton Park	58 "	8700	1/30	30.9	7.5	12.1	6.0	16	7.2			
Spud Mt.	149 "	10700	1/30	38.9	11.4	32.5	12.2	2	--			
Molas Lake	150 "	10500	1/30	24.3	5.7	24.8	8.4	2	--			
Howardville	151 "	9800	1/30	26.7	7.2	17.5	6.4					
Average for drainage				25.2	5.9	13.7	5.0		6.5			
DOLORES RIVER												
Rico	23 Colo.	8700	1/30	21.2	4.3	15.7	5.0	13	6.4			
Telluride	24 "	8600	1/30	23.1	6.4	9.8	6.0	13	5.2			
Trout Lake	114 "	9700	1/30	36.0	9.6	14.7	9.1	4	11.3			
Average for drainage				26.8	6.8	13.4	6.7		7.6			

\*On adjacent drainage

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COLORADO RIVER SNOW SURVEYS  
 February 1, 1953

Drainage Basin and Snow Course	No. and State	Elev.	Date of Survey	Snow Depth	Snow Course Measurements				Past Yrs. Rec.	Av. Water Content		
					Water Content							
					1953	1952	1951					
C O L R A D O R I V E R												
SALT RIVER					In.	In.	In.			In.		
Forest Dale	5 Ariz.	6000	1/31	0.0	0.0	0.0	1.0	12	1.4			
McNary	4 "	7200	1/31	3.0	1.3	0.0	2.7	14	3.1			
Nutrioso	1 "	8500	2/1	1.5	0.4	3.6	0.9	15	2.6			
Coronado Trail	3 "	8000	2/1	5.1	1.1	5.2	1.1	15	3.7			
Milk Ranch	6 "	7000	1/31	0.8	0.3	0.0	0.9	12	1.8			
Gentry	28 "	7600	1/30	5.1	1.3	5.8	2.5	3	3.8			
Canyon Creek	26 "	7500	1/30	4.2	2.4	6.8	2.9	3	4.6			
Elk	25 "	7600	-	-	-	3.7	4.2	3	4.2			
Maverick Fork	23 "	9050	1/30	16.4	4.6	14.4	3.6	3	7.9			
Baldy	22 "	9000	1/30	19.4	4.3	12.3	3.4	3	6.4			
Fort Apache	21 "	9000	1/30	24.6	5.0	12.6	3.6	3	6.3			
Pacheta	20 "	7800	2/1	0.0	0.0	7.1	2.0	2	-			
Average for drainage					8.0	2.1	6.1	2.3		4.2		
L I T T L E C O L R A D O R I V E R												
Forest Dale*	5 Ariz.	6000	1/31	0.0	0.0	0.0	1.0	12	1.4			
McNary	4 "	7200	1/31	3.0	1.0	0.0	2.7	14	3.1			
Nutrioso*	8 "	8500	2/1	1.5	0.4	3.6	0.9	15	2.6			
Mormon Lake	13 "	7350	2/1	7.2	1.8	6.3	-	5	7.5			
Fort Valley	12 "	7350	2/1	4.0	1.4	7.0	1.3	6	3.8			
Gentry	28 "	7600	1/30	5.1	1.3	5.8	2.5	3	3.8			
Heber	7 "	7600	1/30	4.8	1.3	6.1	2.7	3	4.1			
Canyon Creek	26 "	7500	1/30	4.2	2.4	6.8	2.9	3	4.5			
Elk	25 "	7600	-	-	-	8.7	4.2	3	4.2			
Mormon Mt.	19 "	7500	2/1	11.8	3.9	9.3	2.7	3	6.0			
Average for drainage					4.6	1.5	4.9	2.1		4.1		
G I L A R I V E R												
Frisco Divide	11 N. Mex	8000	2/1	3.7	1.1	1.4	1.6	15	2.3			
State Line	14 "	8000	2/1	3.3	0.8	2.5	1.5	15	2.9			
Taylor Creek	22 "	7850	2/1	0.0	0.0	-	1.8	9	0.9			
Inman	23 "	7800	2/1	0.0	0.0	-	2.0	5	1.1			
Nutrioso	1 Ariz.	8500	2/1	1.5	0.4	3.6	0.9	15	2.6			
Beaver Head	2 "	8000	2/1	7.2	2.4	4.0	-	13	3.4			
Coronado Trail	3 "	8000	2/1	5.1	1.1	5.2	1.1	16	3.7			
Rose Canyon	29 "	7300	2/1	0.0	0.0	0.0	1.3	3	0.4			
Bear Wallow	30 "	8100	2/1	6.4	2.3	0.0	1.9	3	1.5			
Average for drainage					3.9	0.9	2.4	1.4		2.4		

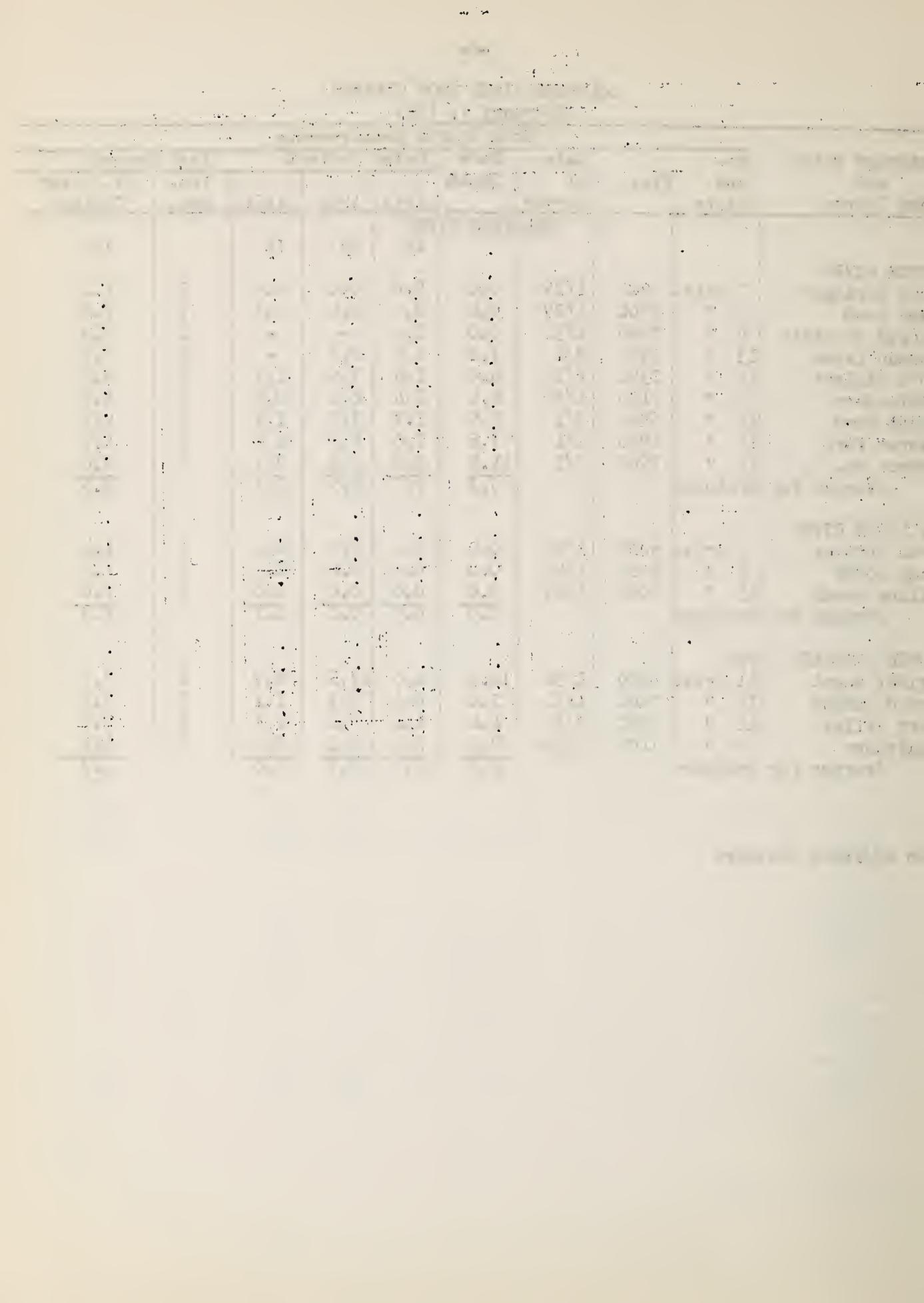
\*On adjacent drainage



COLORADO RIVER SNOW SURVEYS  
 February 1, 1953

Drainage Basin and Snow Course	No. and State	Elev.	Date of Survey	Snow Depth	Snow Course Measurements			Past Yrs. Rec.	Av. Water Content		
					Water Content						
					1953	1952	1951				
COLORADO RIVER											
VERDE RIVER					In	In	In		In		
Iron Springs*	7 Ariz.	6200	1/29	0.0	0.0	0.0	0.0	7	1.4		
Camp Wood	8 "	5700	1/29	0.0	0.0	0.0	0.3	7	1.4		
Mingus Mountain	4 "	7100	1/31	0.0	0.0	-	-	4	2.9		
Norman Lake*	13 "	7350	2/1	7.2	1.8	6.3	-	5	7.5		
Fort Valley*	12 "	7350	2/1	4.0	1.4	7.0	1.3	6	3.8		
Chalender*	9 "	7100	1/30	8.4	2.4	6.1	0.9	6	4.2		
Munds Park	18 "	6500	2/1	5.5	1.7	3.2	1.2	3	2.7		
Casper Park	17 "	6930	2/1	7.6	2.6	6.9	2.5	3	4.9		
Mormon Mt.	19 "	7500	2/1	11.8	3.9	9.3	2.7	3	6.0		
Average for drainage				5.3	1.7	4.9	1.3		3.5		
WILLIAMS RIVER											
Iron Springs	7 Ariz.	6000	1/29	0.0	0.0	0.0	0.0	7	1.4		
Camp Wood*	8 "	5700	1/29	0.0	0.0	0.0	0.3	7	1.4		
Willow Ranch	15 "	5000	1/29	0.0	0.0	0.0	0.0	6	1.0		
Average for drainage				0.0	0.0	0.0	0.1		1.3		
LOWER COLORADO RIVER											
Bright Angel	11 Ariz.	8400	1/31	18.9	4.6	17.5	2.9	6	7.6		
Grand Canyon	10 "	7500	1/31	2.0	0.6	4.3	1.1	5	3.3		
Fort Valley	12 "	7350	2/1	4.0	1.4	7.0	1.3	6	3.8		
Chalender	9 "	7100	1/30	8.4	2.4	6.1	0.9	6	4.2		
Average for Drainage				8.3	2.3	8.7	1.6		4.7		

\*On adjacent drainage



LIST AND LOCATION OF SNOW COURSES

Platte, Arkansas, Colorado  
and Rio Grande Drainages

No.	Name	Sec.	Twp.	Rge.	Elev.	No.	Name	Sec.	Twp.	Rge.	Elev.
<u>Cheyenne</u>											
1 SD	Upper Spearfish	21	3N	1E	6500	12 C	Phantom Valley	7	5N	75W	9300
	North Platte					16 C	Berthoud Pass	35	2S	75W	9700
7 C	Park View	24	5N	78W	9200	37 C	M. F. Camp Ground	16	3S	77W	9000
8 C	Columbine	21	5N	82W	9300	44 C	Fiddler Gulch	1	8S	80W	11000
136 C	Northgate	7	11N	79W	8500	59 C	Lulu	25	6N	76W	10200
7 W	Bottle Creek	24	14N	85W	8200	64 C	N. Inlet Grand Lake	26	4N	75W	9000
8 W	Webber Spring	27	14N	85W	9000	65 C	Lake Irene	8	5N	75W	10600
9 W	Old Battle	29	14N	85W	9800	69 C	Arrow	34	1S	75W	9900
37 W	North French Creek	27	16N	80W	10200	70 C	Lapland	16	2S	76W	9500
38 W	North Barrett Creek	30	16N	80W	9400	79 C	Fremont Pass	2	8S	76W	11400
39 W	Ryan Park	34	16N	81W	8400	91 C	Lynx Pass	27	2N	88W	9100
67 W	Spring Creek	32	15N	85W	9000	97 C	Shrine Pass	15	6S	79W	10500
68 W	Albany	18	14N	78W	9400	102 C	Grizzly Peak	2	5S	76W	11250
71 W	Pearl	18	12N	82W	8900	106 C	Glen-Mar Ranch	31	2S	77W	8850
						107 C	Monarch Lake	30	2N	74W	8500
						112 C	Granby	11	2N	77W	8700
						127 C	Grand Lake	36	4N	75W	8600
88 C	Roach	5	10N	77W	9800	138 C	Berthoud Summit	10	2S	75W	11300
111 C	McIntyre	35	10N	76W	9100	139 C	Frazer View	34	2S	75W	10600
3 W	Brooklyn Lake	11	16N	78W	10200	143 C	Gore Pass	2	1N	82W	8900
11 W	Foxpark	21	13N	78W	9200	146 C	Frisco	18	6S	78W	9300
35 W	Libby Lodge	29	16N	78W	8700	147 C	Snake River	9	5S	76W	9700
36 W	Hairpin Turn	24	16N	79W	9500	158 C	Summit Ranch	8	4S	78W	10000
						163 C	Vail Pass	28	5S	79W	10000
						167 C	Kokomo	23	7S	79W	10600
						168 C	Pando	10	7S	80W	9500
<u>Laramie</u>											
29 W	Grannier Meadows	19	30N	100W	9000	33 C	Roaring Fork	30	11S	82W	10700
47 W	South Pass	13	30N	101W	9000	34 C	Ind. Pass Tunnel	20	11S	87W	9200
57 W	Larson Creek	12	30N	103W	9000	45 C	North Lost Trail	1	9S	83W	8700
						100 C	Nast	12	9S	82W	10400
						144 C	Ivanhoe	1	12S	83W	11500
							Ruby				
<u>Sweetwater</u>											
29 W	Grannier Meadows	19	30N	100W	9000	35 C	Yampa	26	7N	84W	8300
47 W	South Pass	13	30N	101W	9000	36 C	Dry Lake	21	5N	82W	9800
57 W	Larson Creek	12	30N	103W	9000	37 C	Elk River	13	5N	83W	9700
						140 C	Routt Line	30	5N	83W	9550
						141 C	Rabbit Ears	20	11S	87W	9500
						142 C	Yampa View	28	1N	88W	8500
<u>Laramie Peaks District</u>											
39 W	La Bonte	11	27N	74W	8450	38 C	White	15	2S	91W	9000
70 W	Boxelder	31	30N	75W	9000	39 C	Burro Mountain	1	9S	83W	8500
						40 C	Rio Blanco	23	11S	94W	10000
							Plateau Creek	35	11S	96W	10000
<u>South Platte</u>											
1 C	Cameron Pass	2	6N	76W	10300	41 C	Mesa Lakes	23	13S	96W	10000
2 C	Chambers Lake	6	7N	75W	9000	42 C	Trickle Divide	23	11S	94W	10000
3 C	Big South	33	8N	75W	8600	43 C	Gunnison River	22	13S	86W	9000
5 C	East Portal	2	2S	74W	9400	44 C	Crested Butte	19	14S	82W	9700
14 C	Hoosier Pass	13	8S	78W	11400	45 C	Park Cone	2	12S	25W	10000
15 C	Fairplay	33	9S	77W	10000	46 C	Alexander Lake	14	13S	89W	7500
41 C	Wild Basin	24	3N	74W	10000	47 C	Snowshoe Mesa	29	43N	7W	9800
50 C	Deadman Hill	26	10N	75W	10200	48 C	Ironton Park	34	11S	94W	9500
60 C	University Camp	26	1N	73W	10300	49 C	Park Reservoir	5	12S	6E	10800
61 C	Loveland Pass	27	4S	76W	10600	50 C	Porphyry Creek	7	40N	7W	10700
68 C	Hour Glass Lake	18	7N	75W	9500	51 C	Kannah Creek	13	46N	4W	10300
83 C	Jefferson Creek	14	7S	76W	10100	52 C	Lake City	1	11S	89W	9500
95 C	Hidden Valley	23	5N	75W	9550	53 C	McClure Pass	13	42N	5W	11000
115 C	Deer Ridge	19	5N	75W	9050	54 C	Red Mountain	10	37N	1E	10000
116 C	Copeland Lake	21	3N	75W	8600						
117 C	Empire	21	3S	75W	9650						
118 C	Geneva Park	18	6S	74W	9750						
120 C	Antero	1	13S	77W	9200						
128 C	Red Feather	26	10N	74W	9000						
133 C	Moffatt	2	2S	74W	9400						
134 C	Ward	1	1N	75W	9500						
137 C	Berthoud Falls	16	3S	75W	10500						
148 C	Longs Peak	32	4N	75W	10500						
156 C	Lost Lake	32	8N	76W	9300						
34 C	Pole Mountain	35	15N	72W	8700						
<u>Arkansas River</u>											
19 C	Tennessee Pass	21	8S	80W	10200	153 C	San Juan	10	37N	1E	10000
21 C	Twin Lakes Tunnel	22	11S	82W	10500	154 C	Upper San Juan	10	41N	7W	9400
72 C	Whiskey Creek		37.2N	105W	10300	155 C	Silverton	12	39N	9W	8850
74 C	La Veta Pass	22	28S	70W	9300	156 C	Cascade	4	36N	11W	9700
78 C	Four Mile Park	23	11S	81W	9700	157 C	La Plata	32	40N	8W	10700
81 C	Blue Lakes	30	31S	69W	10000	158 C	Spud Mountain	7	40N	7W	10600
92 C	Monarch Pass	16	49N	6E	10500	159 C	Molas Lake	15	41N	7W	9800
119 C	Saint Elmo	31	15S	80W	10600	160 C	Howardville	35	42N	8W	10300
121 C	Timberline	8	9S	81W	11100	161 C	Mineral Creek				
165 C	Cooper Hill	2	8S	80W	10600	162 C					
166 C	East Fork	9	8S	79W	10700						

LIST AND LOCATION OF SNOW COURSES (CONTINUED)

No.	Name	Sec.	Twp.	Rge.	Elev.	No.	Name	Sec.	Twp.	Rge.	Elev.
<u>Dolores</u>											
23 C	Rico	11	39N	11W	8700	7 A	Turon Springs	22	14N	3W	6000
24 C	Telluride	6	42N	84	8600	15 A	Willow Ranch	16	21N	11W	5000
25 C	Lizzard Head	24	41N	10W	10400						
114 C	Trout Lake	8	41N	9W	7700						
<u>Arizona (Williams)</u>											
						9 A	Chaiendar	27	22N	3E	7100
						10 A	Grand Canyon	21	30N	4E	7500
						11 A	Bright Angel	34	33N	4E	8400
<u>Arizona (Lower Colorado)</u>											
<u>Green</u>											
23 W	Dutch Joe	33	31N	104W	8700						
24 W	Mulligan Park	17	35N	108W	8900						
25 W	Kendall R. S.	23	38N	110W	7900						
26 W	Loomis Park	14	37W	111W	8500	26 C	Rio Grande	4	37N	2E	10000
27 W	Snyder Basin	15	29N	114W	8040	27 C	Wolf Creek	13	40N	4W	9350
28 W	Piney La Barge	19	29N	114W	8820	27 C	Upper Rio Grande	15	36N	5E	9600
						47 C	Silver Lakes	25	33N	6E	9300
						49 C	River Springs	26	37N	4E	11500
						76 C	Summitville	30	37N	4E	10000
<u>Arizona (Gila)</u>											
11 NM	Frisco Divide	21	6S	20W	8000	77 C	Cumbres Pass	17	32N	5E	10000
14 NM	State Line	5	6S	21W	8000	80 C	Santa Maria	8	41N	2W	9700
22 NM	Taylor Creek	20	10S	10W	7850	82 C	Culebra		37.2N	105.2W	10000
23 NM	Inman	6	11S	10W	7800	84 C	Fort Garland	13	29N	72W	8200
1 A	Nutrioso	23	6N	30E	8500	108 C	Platoro	22	36N	4W	9950
2 A	Beaver Head	13	4N	30E	8000	109 C	West Conejos	25	35N	4E	9450
3 A	Coronado Trail	26	5N	30E	8000	110 C	La Manga	11	33N	5E	10000
29 A	Rose Canyon	15	12S	16E	7300	122 C	Pyramid	26	41N	5W	10300
30 A	Bear Wallow	6	12S	16E	8100	123 C	Spring Creek Pass	2	42N	3W	10900
						124 C	Pool Table Mt.	19	41N	2E	10000
						125 C	Lake Humphrey	32	40N	1E	9300
<u>Arizona (Salt)</u>											
4 A	McNary	14	8N	23E	7200	126 C	Cochetopa Pass	12	45N	3E	10000
5 A	Forest Dale	2	9N	21E	6000	154 C	Porcupine	2	41N	3W	10400
6 A	Milk Ranch	28	8N	23E	7000	155 C	Wolf Creek Summit	6	37N	2E	11000
20 A	Pacheta				7800						
21 A	Fort Apache	18	7N	27E	9000	1 NM	Red River	29	28N	15E	9500
22 A	Baldy	28	7N	27E	9000	2 NM	Taos Canyon	10	25N	15E	9000
23 A	Maverick Fork	13	6N	27E	9050	4 NM	Aspen Grove	12	18N	10E	9100
31 A	Workman Creek	33	6N	14E	5860	9 NM	Hematite Park	8	28N	15E	9500
						12 NM	Tres Ritos	23	22N	13E	9000
						15 NM	Payrole	16	28N	7E	9700
<u>Arizona (Little Colorado)</u>											
12 A	Fort Valley	22	22N	6E	7350	17 NM	Chama Divide		36.9N	106.7W	7750
13 A	Mormon Lake	13	18N	8E	7350	18 NM	Chamita		36.9N	106.7W	8500
19 A	Mormon Mountain	14	18N	8E	7500	19 NM	Cordova	22	22N	13E	10100
						20 NM	Panochuela	27	19N	12E	8300
						21 NM	Big Tesuque	17	18N	11E	10000
<u>Arizona (Verde)</u>											
8 A	Camp Wood	3	16N	6W	5700	24 NM	Elk Cabin	8	18N	11E	8250
16 A	Antelope Park	29	19N	8E	7300	26 NM	Rio En Medio	8	18N	11E	10400
17 A	Casner Park	19	18N	8E	6930	28 NM	Quemazon	34	20N	5E	9300
18 A	Munds Park	7	18N	7E	6500	29 NM	Bateman	5	26N	6E	9300
						31 NM	Fenton Hill	18	19N	3W	8900

SD - South Dakota; C - Colorado; W - Wyoming; A - Arizona; NM - New Mexico



Federal - State - Private  
COOPERATIVE SNOW SURVEYS

—  
Furnishes the basic data  
necessary for forecasting  
water supply for irrigation,  
domestic and municipal water  
supply, hydro-electric power  
generation, navigation,  
mining and industry



“WATER IS THE WEST'S GREATEST RESOURCE”